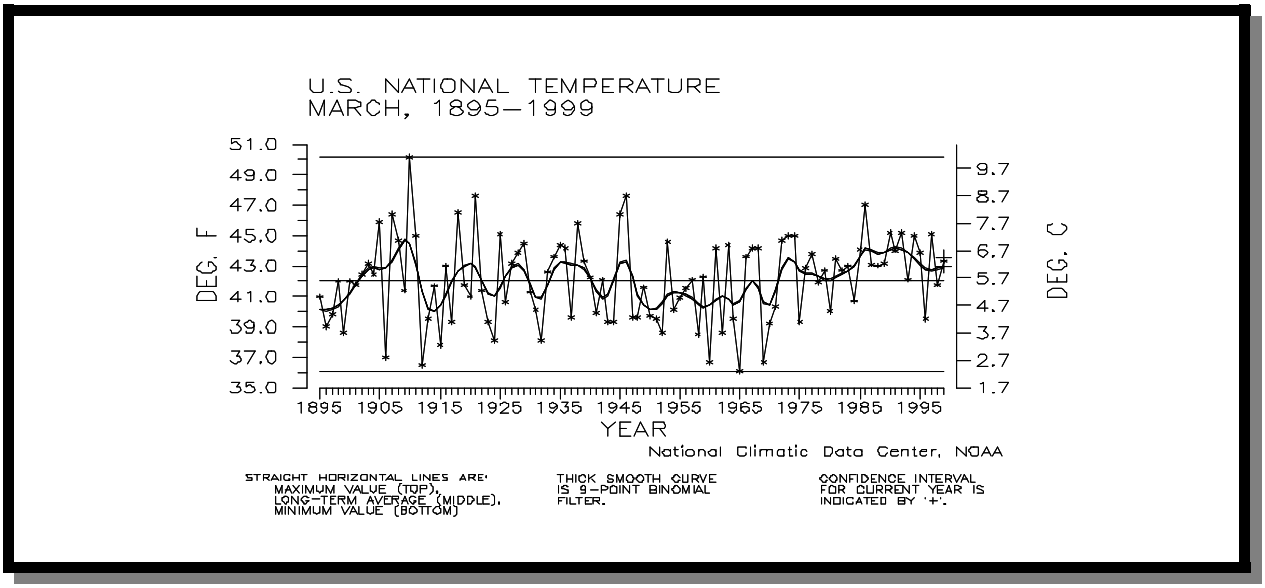
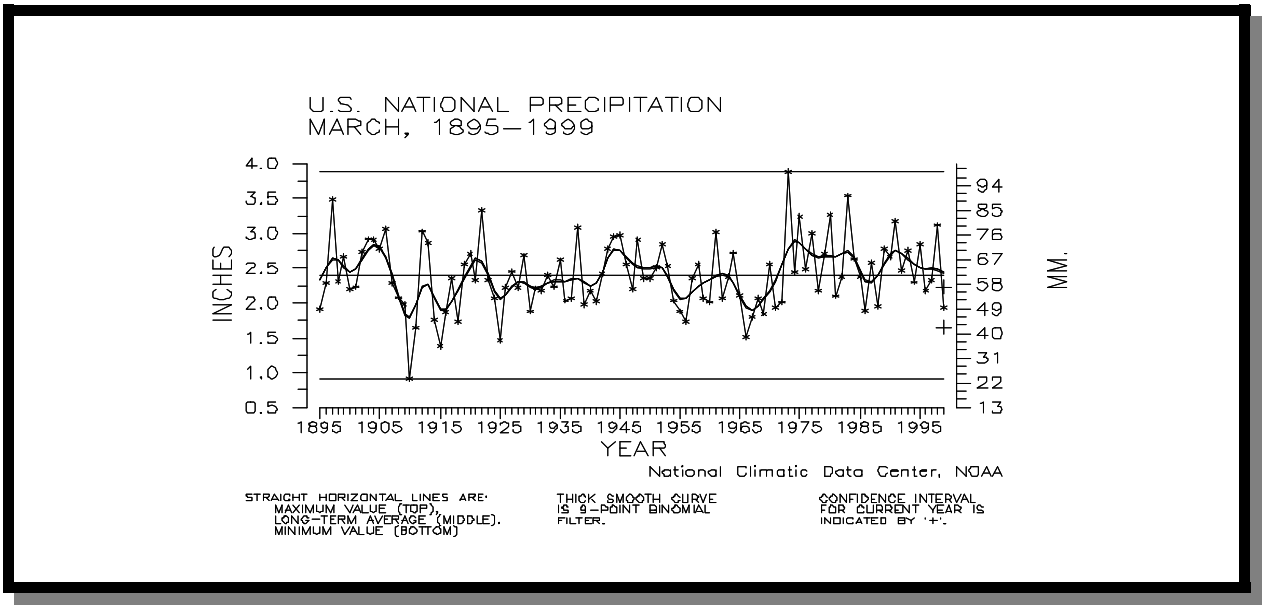
Monthly Activity Report

March 1999





Preliminary data for March 1999 indicate that temperature averaged across the contiguous U.S. was above the long-term mean, ranking as the 37th warmest March since 1895 (Top Figure). Over 12 percent of the country was much warmer than normal, while less than one percent of the country was much cooler than normal. Twelve of the last fifteen months of March have been above, to much above, the long-term mean.

March 1999 was the 16th driest such month since 1895 (Bottom Figure). Nearly 16 percent of the country was much drier than normal, while about four percent of the country was much wetter than normal.

DIRECTOR'S HIGHLIGHTS

Climate Meetings at NCDC

Three consecutive meetings were hosted by Center Director Tom Karl at the National Climatic Data Center (NCDC) during the week of March 8-12, 1999. The first meeting was an Intergovernmental Panel on Climate Change (IPCC), and U.S. National Research Council workshop on satellite-derived tropospheric temperature record: "Understanding the Uncertainties." The panel reviewed the latest information on Microwave Sounding Unit (MSU) climate monitoring. All major MSU scientists attended. They concluded that the discrepancies between surface data and MSU trends are decreasing. The second meeting was an IPCC Chapter 2 Experts meeting on trends in climate extremes. The global trends in extreme climate events were featured and many papers from authors from around the world were presented. The third meeting was among IPCC lead authors to plan and coordinate IPCC 2000-2001 scientific contributions. In all, over 50 people from around the world attended the meetings.

Survey Feedback Action (SFA)

John Hughes coordinated through the National Oceanic and Atmospheric Administration's (NOAA) Diversity Office Survey Feedback Action meetings for each of the National Climatic Data Center workgroups. Charles J. Hicks, HRD Consultants of Mt. Washington, MD, facilitated meetings on March 18, 19, and 23, and National Environmental Satellite, Data, and Information Service Facilitator Terry Babb conducted meetings on March 24, 25, and 26. Stephanie Jones, NOAA Diversity Office, has scheduling meetings in April for the remaining three work groups.

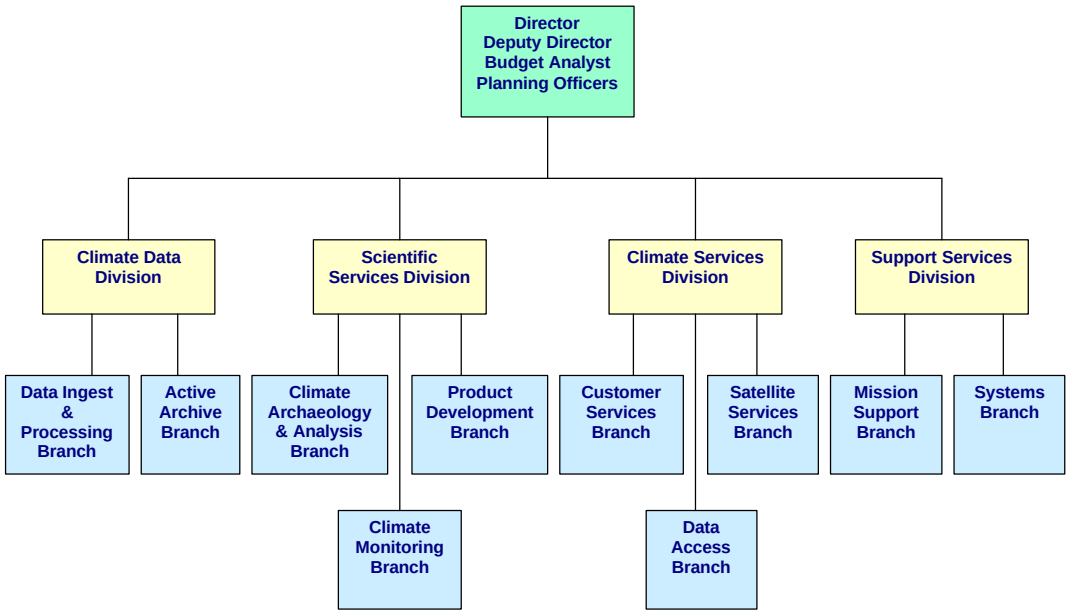
Unisys Mainframe Decommissioned

The end of March drew to a conclusion an era in computer processing at the National Climatic Data Center (NCDC). The Unisys Mainframe computer was decommissioned after 21 years of service, which saw it upgraded from a primarily card processing machine (a Univac 1108) to the workhorse of the NCDC computer environment. The Unisys was the primary means for creating and accessing data on magnetic tape. At the time of its decommissioning, NCDC had 580,000 magnetic media in its library. Unisys programs and functionality were converted to an Open Systems (UNIX) environment by a Center-wide effort which has involved every Division, and was helped along by the services of contractors from the Marada Corporation. Not only were there significant cost savings achieved by terminating the Unisys support contract, but the conversion effort dovetailed nicely with the Year 2000 conversion effort and with various processing system enhancements.

NCDC Reorganization

The new National Climatic Data Center (NCDC) organizational structure took effect on March 28th. Following is the new NCDC organizational chart.

National Climatic Data Center



CLIMATE DATA AND INFORMATION SERVICES

✦ Database Development

RFC Data

National Climatic Data Center meteorologists recently updated the River Forecast Center (RFC) Network Monthly Precipitation Data Set, TD-6410, through February 1999. The RFC data are daily precipitation reports collected by the 12 River Forecast Centers and sent to the National Centers for Environmental Prediction (NCEP) via the Automated Forecast and Observation System (AFOS). This data set contains monthly precipitation values on a per station basis for an average 5,500 sites. The Climate Prediction Center (CPC) creates a file from this data that summarizes precipitation on a divisional basis and then passes this compiled divisional precipitation file to NCDC for use in the *Climate Variations Bulletin* Web product.

✦ Data and Information Distribution

March Remains Peak Customer Contact Month

March continues to be the peak month for customer contacts by telephone and letters.

Customer services representatives received training on customer order procedures for the newly implemented Customer Ordering and Management Processing System (COMPS) while continuing to answer 6,767 telephone calls and processing 1,626 letters, 271 faxes, and 671 electronic mail inquiries. Customer contacts from all sources resulted in 4,233 orders. The NCDC On-Line Store sales of 1,272 orders represent a record monthly high for on-line orders. The NNDC On-Line Data Store was accessed by 27,970 customers who downloaded approximately 11 gigabytes of data. Approximately 50 percent of the telephone contacts are now directly related to requests for technical assistance in utilizing the On-Line Store.

Kentucky State Climatologist Studies June 1969 Flash Flooding Event

Glenn Conner, the State Climatologist for Kentucky, obtained archived climatological data, observations, and radar reports for June 23-24, 1969. Dr. Conner is studying an extreme rainfall event in Kentucky where 9.68 inches of rain fell at Scottsville in a 12-hour period. The state record rainfall occurred at Dunmor with 10.40 inches in June 1960. The Scottsville rainfall event was not just a localized storm, but caused extensive flash flooding as a series of training thunderstorms released more than 8 inches of rain in about a 6-hour period over six Western Kentucky counties. There were many reports of flash flooding, the worst of which was reported in Allen County where 3 people died, 100 homes were damaged, and 36 bridges were destroyed.

Information for Financial Derivatives

The National Climatic Data Center (NCDC) provided information in response to a Houston, TX, based financial institution. The institution is interested in an option for taking on-line daily climatic data and easily transporting the data into a spreadsheet format. The Edited Local Climatological Data (LCD) product was of primary interest to this company. Currently, NCDC provides the Unedited LCD through the On-line Store, and plans to provide daily historical data on-line via an Oracle database. Various financial market companies have recently expressed interest in specific products to use in trading of financial derivatives related to climatic data, such as heating/cooling degree days. Variations in the actual recorded climate data, such as degree days, can make large differences in financial disbursements.

ASHRAE Questions Concerning ASOS Answered

National Climatic Data Center personnel reviewed literature and made a bibliography concerning the Automated Surface Observing System (ASOS) climate continuity studies of various weather elements. The bibliography consists of Web page referrals and articles from either conference proceedings or published in journals. Copies of the articles were forwarded to American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) committee members who were interested in the impact of ASOS observations upon climate continuity studies. Tentative plans are to prepare a Web page using the review for other customers who are increasingly asking for similar referrals.

Updated System for On-Line Climate Data

The National Climatic Data Center has updated and enhanced its “Get/View On-line Climate Data" page (http://www.ncdc.noaa.gov/ol/climate/climatedata.html). It now includes clear links to all forms of data that have been added to the On-line Store, provides more information for users, and distinguishes between data files, graphics, and printable forms. Customers may now use this page as a “one-stop” source and review of all climate data and products on-line at all three NOAA National Data Centers.

A Record Month for WebCliServ

WebCliServ and the associated Foxpro database

access system experienced the largest usage rates to date. WebCliServ received nearly two and a half times as many hits (151,546) in March as it did in February (61,742), the previous record. The access system had a record 314,285 hits, beating February's record of 194,299. The system includes: What's Hot, What's New, On-line Store, Storm Events, Next Generation Weather Radar (NEXRAD) Images, and WebCliServ. The On-line Store also had a record month. For a complete listing of these and previous months' statistics visit: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwmisc~www4Stats

Addition to "Climate Watch" Page

The Center has added a report on the heavy rains and snows in Oregon and Washington to its February "Climate Watch" Web page which is accessible through: http://www.ncdc.noaa.gov/ol/reports/weather-events.html). The data table provides two-month precipitation totals (water equivalent) for January-February 1999, based on preliminary U.S. daily data from the Climate Prediction Center. The data reveal that seven stations reported over 40 inches of precipitation and one station, Valsetz, OR, elevation 3,589 feet, over 69 inches. The "Climate Watch" page provides a review of significant climate events and extremes during the month and provides links to reports of particular events and other Web sites (e. g. Regional Climate Center reports). The page also periodically contains historical climatological reports of unusual significance.

1998 Bibliography Added to Web Site

The National Climatic Data Center (NCDC) has added 1998 bibliographic information to its "Bibliography" Web page, which now has entries for 1995-1998. The page address is: http://www.ncdc.noaa.gov/ol/climate/bibliography.html. On-line users may review this page to find citations for all articles, conference proceedings, publications, and Web pages authored by NCDC personnel during the past 4 years. There are 77 entries for 1998.

NOAA Orbital Elements

The National Climatic Data Center (NCDC) updated the U.S. Space Command (USSC) four-line orbital element file database for NOAA polar orbiting satellites for the period from 1995 to February 1998. This data is useful in accurately renavigating satellite data. Although NCDC has access to more recent data, USSC prohibits public distribution of four-line element data for one year after generation. The on-line database will be updated monthly at: ftp://ftp2.ncdc.noaa.gov/pub/data/orbit/4line/.

Temperature Extremes CD-ROM Released

Selecting climate change scenarios means answering the question: "How much will climate vary in the U.S.A. during the 21st Century?" To help answer this question, the National Climatic Data Center, together with the Office of Science Technology Policy, the Environmental Protection Agency, and the National Oceanic and Atmospheric Administration's (NOAA) Office of Global Programs has produced a CD-ROM **"**Probabilities of Temperature Extremes in the U. S.A.." Using model projections, users can query the CD and obtain estimated probabilities of extreme temperature occurrences (both warm and cold) for any period during the next 100 years. For some locations, the projections imply that dangerously hot temperatures may be more frequent, while at other places and times, dangerously cold temperatures will be less frequent. The CD can be ordered from NCDC at: http://www.ncdc.noaa.gov/.

CLIMO Inventory Merge Completed

The migration of the Micrographics (MG) database records into the CLIMO database has been completed by Orkand, the National Climatic Data Center (NCDC) Mission Services Support contractor. Through this effort, the CLIMO database once again contains all of the MG and Manuscript inventory records for NCDC's archives, and incorporates the relocation of

records which have been rescued (e.g., returned from Kentucky or West Virginia, respectively). CLIMO is used by the contractor to locate these data in the basement storage areas when filling customer requests. It provides the means for searching for a specified data set and/or station for a particular period of record. This database also feeds inventory data into CLISERV, which is accessed by government customer service staff. When the Data Rescue projects began, the CLIMO database was subdivided into the two types of media (e.g., MG and Manuscript) to facilitate prep and inventory edit of film records for rescue. This "split" caused the need to search both databases to locate the desired data, impeding turnaround time for retrieving data and serving customer requests. This migration enables Orkand to update and query CLIMO for both media types and improve service.

Data Rescue

National Climatic Data Center (NCDC) Director Tom Karl and the NCDC Data Rescue Program staff visited Image Entry (IE) in London, KY. Image Entry demonstrated their new Remote Production Access system and provided a tour of their London and Booneville facilities. The NCDC group was joined by Dr. Susan Zevin and Tim Roberts from the National Environmental Satellite, Data, and Information Service and Dave Carey from Unisys. In the search for a better method to handle the Quality Assurance of the digital images being produced, NCDC is investigating the possible use of Natural Handwriting Recognition software to handle this task in an objective manner. A total of 28,275 units have now been shipped to the West Virginia contractor for imaging. They have returned 1,293 CD-ROMs containing some 9.8 million images. Efforts are underway to bring some new staffing to the NCDC Data Rescue team.

✦ Research Customer Service Group Requests

Clean Air Enforcement Case

A trial attorney from the U.S. Department of Justice requested help from the National Climatic Data Center regarding an air pollution case involving a manufacturing firm in the Pittsburgh, PA, area. A mixing height tabulation for the days in question and all days for the remainder of the year were supplied to the attorney. The data will be examined in an effort to show that the potential for high air pollution was present on the days in question.

✦ Satellite Data Requests

Report to the President

Acting on a request from the President's Council on Sustainable Development, the National Climatic Data Center (NCDC) provided satellite images to the National Oceanic and Atmospheric Administration's Public Affairs Office. The images, Geostationary Operational Environmental Satellite color and black and white, were forwarded to the Director of Sustainable Development and Intergovernmental Affairs for use on the cover of the Report to the President.

Georges Images Used by Journal

The Managing Editor of *The International Journal of Cast Metals Research*, published in Sheffield, England, has requested an image of Hurricane Georges. The image will be used to illustrate an article in the proceedings of a cast metal conference held in Alabama in 1998. The editor says the conference took place despite the best efforts of Georges to stop it.

Tornado Outbreak

The National Oceanic and Atmospheric Administration's Public Affairs Office will be putting together press release material to mark the 25th anniversary of the Xenia, OH, tornado, which took place on April 3, 1974. Glossy images from the ATS-III satellite will be provided by the NCDC, and will show the storm movement over a six-hour period.

✦ Congressional Requests

Environmental Impacts Studied

Several current and year-old Sea Surface Temperature images of the southern California coast were provided to the National Oceanic and Atmospheric Administration's (NOAA) Legislative Affairs Office, which received a request from Congressman Brian Bilbray of California. The effort was timely, thanks to the National Climatic Data Center and one of the NOAA Coast Watch offices which provided the older images. The images will be used to ascertain environmental impacts from a discharge pipe in the southern San Diego Bay area.

✦ Requests from News Media

Snowfall Trends in Philadelphia Questioned

Recent snowfalls in the Philadelphia, PA, area have generated an interest in past history of such events. The National Climatic Data Center faxed monthly snowfall data for Philadelphia covering the period 1899-1998 to a reporter who works for WFMZ-TV. The reporter is interested in using the data to present viewers a snowfall history for Philadelphia, as well as possibly detecting any clearly defined trends in the data.

✦ Technology Applications

Climatic Data Access System Completed

The "Phase 1" data access system for daily and monthly surface data is complete and now includes hourly precipitation data (Phase 2 data set). Implementation for off-line orders and additional on-line orders is scheduled for April. Development of the Oracle "Phase 2" data access system for other surface data sets continues. A Web-based access system link to the robotic Hierarchical Data Storage System (HDSS) will provide the capability to copy files, run applications, and produce output for off-line orders (data sets not yet included in the On-Line Store Oracle system). Other systems completed during March were the Subscriptions system and the migration of various programs used to update certain data already part of the Center's Web pages. The main activities now are programming related to the phase 2-3 Oracle system and completion of Unix scripts and procedures for Orkand to use in filling orders. Extensive work continues with Systems Branch concerning hardware/software installation (e.g., tape drive access) and SP2 performance.

✦ Regional and State Climate Centers

WRCC Director Visits NCDC

Dick Reinhardt, Director of the Western Regional Climate Center (WRCC), visited the National Climatic Data Center for one-on-one discussions and to attend the Climate Reference Network meeting. A variety of issues were discussed including the Unified Climate Access Network site evaluations, real-time coop data processing, and climate monitoring. Planning continues for the Regional Climate Center Directors meeting to be held April 20-22, 1999.

State Climatologist Exchange Progam

The selections of State Climatologists who will participate in this year's exchange program have been made. The State Climatologists from NC, DE, and NM were selected to participate in this year's program.

SCIENTIFIC AND PROFESSIONAL ACTIVITIES

✦ Working Groups/Committees/ Meetings

Climate Reference Net, COOP Modernization and Punched Paper Replacement

A meeting was convened by the National Climatic Data Center Director (NCDC), Tom Karl, at NCDC on March 23, 1999, for laying the foundation for accomplishing the work to be supported by three major FY 2000 initiatives. The meeting was an informal open discussion among NCDC, National Weather Service, (NWS), U.S. Department of Agriculture representatives, and others to plan urgently-needed COOP Network improvements. NCDC (with NWS assistance) will manage the proposed 250-site Climate Reference Network; and NWS (with NCDC assistance) will manage Cooperative Modernization Planning, and Replacement of Punched Paper Tape Rain Gage Recorders. Important items discussed included communications requirements, possible acquisition of up to 8,000 surplus Census PCs, and the additional funds needed in out years for an adequate COOP modernization. Two days of smaller follow-up sessions followed the formal meetings.

NCDC Involved in Annual Satellite and Education Conference

The National Climatic Data Center (NCDC) was again an invited participant at the Satellite and Education Conference XII held at West Chester University in West Chester, PA, March 10-12, 1999. This year's conference theme was environmental science. One of the conference workshops entitled "Meteorological, Climatological, and Environmental Satellite Data Available to Home School Educators" was given by Tom Ross of NCDC. Tom also staffed the NCDC exhibit booth and demonstrated various NCDC Web based and CD-ROM products available to the educational community. NCDC provided copies of the climatology and satellite CD-ROM to various teachers for use in their classroom laboratories and projects.

✦ Publications

Urban Heat Island Assessment

A case study of the assessment of an urban heat island through the use of blended data from the National Oceanic and Atmospheric Administration-Advanced Very High Resolution Radiometer, Landsat, and the Defense Meteorological Satellite Program-Operational Linescan System has found the multi-sensor analysis very beneficial for determination of urban and rural climate stations in the Dallas-Ft. Worth, TX, region. The assessment is described in a manuscript entitled "Assessment of Urban Heat Islands: A Multi-Sensor Perspective for the Dallas-Ft.Worth, USA Region," by Kevin Gallo and Tim Owen, which has been published in Geocarto International (1998, vol.13, pp. 35-41).

✦ Interactions with NOAA Line Offices

NESDIS Cooperation with USAID and the Southern African Development Community

National Environmental Satellite, Data, and Information Service (NESDIS) scientists collaborated in an invited submission to the U. S. Agency for International Development, supporting the Southern African Development Community

(SADC). The overall theme of the cooperation is capacity-building within southern Africa, in economically beneficial areas of environmental information access and management. The discussion points will be discussed at the SADC Forum, scheduled to be held in Gaborone, Botswana, in April. SADC comprises most African countries south of the Equator. Major participants in the process were the National Climatic and Geophysical Data Centers, Office of Research and Applications, the National Oceanic and Atmospheric Administration, and NESDIS Interagency Affairs. Topics suggested included adapting experimental NESDIS data sets for possible use by SADC, and the fostering of improved environmental data stewardship within SADC countries.

EMPLOYEE ACTIVITIES

✦ EEO and Community Outreach

NCDC Scientists Participate at UNCA First Annual Climate and Weather Workshop

The First Annual Climate and Weather Workshop sponsored by the University of North Carolina - Asheville (UNCA) Department of Meteorology was held on Saturday, March 13, 1999, on the university campus in Asheville, NC. The main objective of the conference was to give an introduction to weather and climate processes to interested businesses, educators, and individuals. Participants from NCDC spoke on subjects and concerns dealing with satellite and global climatology, NCDC data ingest and operations, and local climate normals and extremes. Conference attendees left the workshop with a much better idea of how the weather and climate affect their lives, businesses, local communities, and our society as a whole.

Local GLOBE Teacher Training

Warren Wilson College has been accepted as a Global Learning and Observations to Benefit the Environment (GLOBE) franchise to train teachers in Western North Carolina. National Climatic Data Center personnel will provide atmospheric protocol training to local teachers. Wayne Faas and Tom Ross of the National Climatic Data Center were trainers at a one day atmospheric protocol training workshop during the beginning of March 1999. Time involvement will be about two days a year teaching new teachers how to take cooperative observer measurements.

Local Federal Coordinating Committee

On March 2, 1999, John Hughes and Karol Pittman represented the National Climatic Data Center at the Local Federal Coordinating Committee Meeting held at the United Way. A vote was taken and the United Way of Buncombe County was selected as the Principal Combined Fund Organization in accordance with OPM guidelines. Other Agencies in attendance were the VA Medical Center, Blue Ridge Parkway, Internal Revenue Service, and Southeast Forest Experiment Station.

1999 United Way Citizen's Review Panel

John Hughes of the National Climatic Data Center is participating in the Citizen's Review Process for the United Way. Mr. Hughes is a member of the panel reviewing the American Red Cross application and toured the Red Cross facilities. The final meeting will be held April 21 at the United Way when the Red Cross will respond to the panel's list of questions, and a decision on funding will be made.

Greater Asheville Public Service Steering Committee

John Hughes of the National Climatic Data Center (NCDC) is representing NCDC as a member of the Greater Asheville Public Service Steering Committee. The committee is preparing for this year's Excellence in Public Service Awards breakfast which will be at the University of North Carolina-Asheville May 26th.

A-B Tech Tour

Doug Snowden and Mark Smith provided a tour and overview of the National Climatic Data Center's communication systems to a class from a local technical college. The students participated in the tour to better understand business operations involving Information Technology support.

✦ Personnel Resources

Roger Bissinger retired March 31, 1999, after 47 years of government service. Roger was a Computer Specialist in the Database Management Branch, now the Active Archive Branch, and will be missed by his co-workers.

✦ Training

ORACLE Database Administrator Training

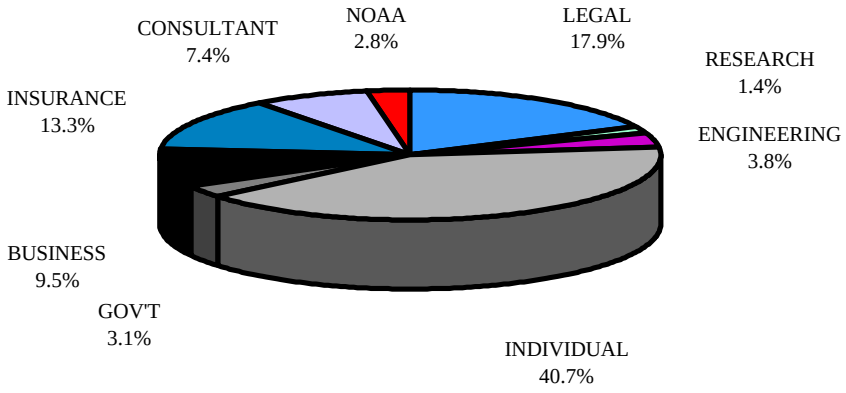
National Climatic Data Center employee Katherine Fincher attended Oracle data base administration training during the month.

Satellite Services Branch Personnel Attend Training

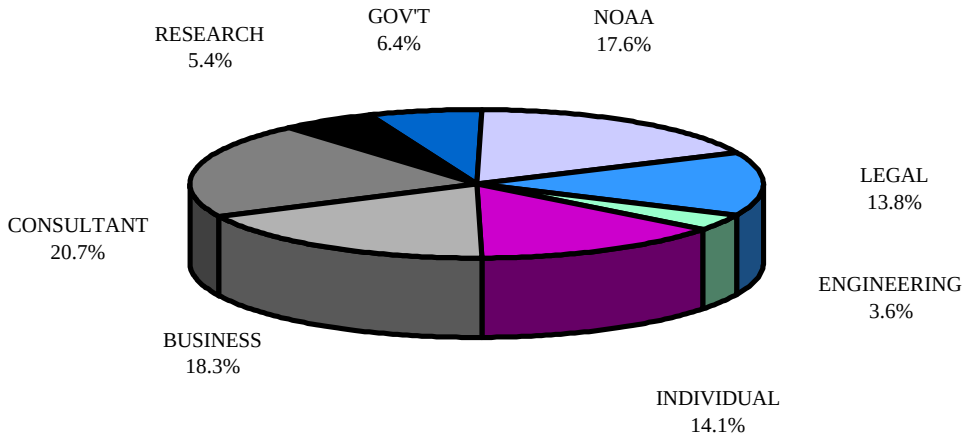
Satellite Service Branch personnel attended Taz Tally training seminars in Adobe PhotoShop, Scanning Techniques, and Preparing Web Graphics. Dan Poltar attended an MVS JCL 4 day (free) course given by ProTech.

The following charts and graphs show the latest National Climatic Data Center user and data statistics.

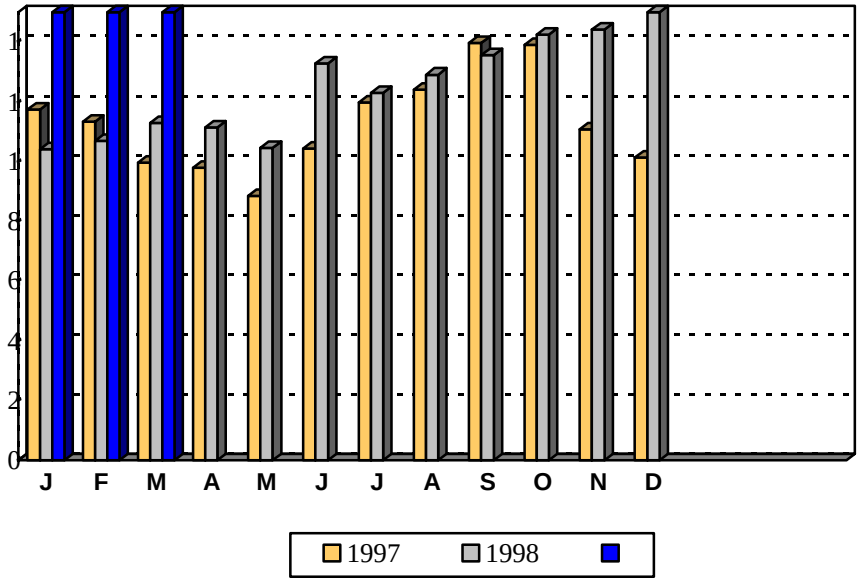
Customer Profile Based on Orders



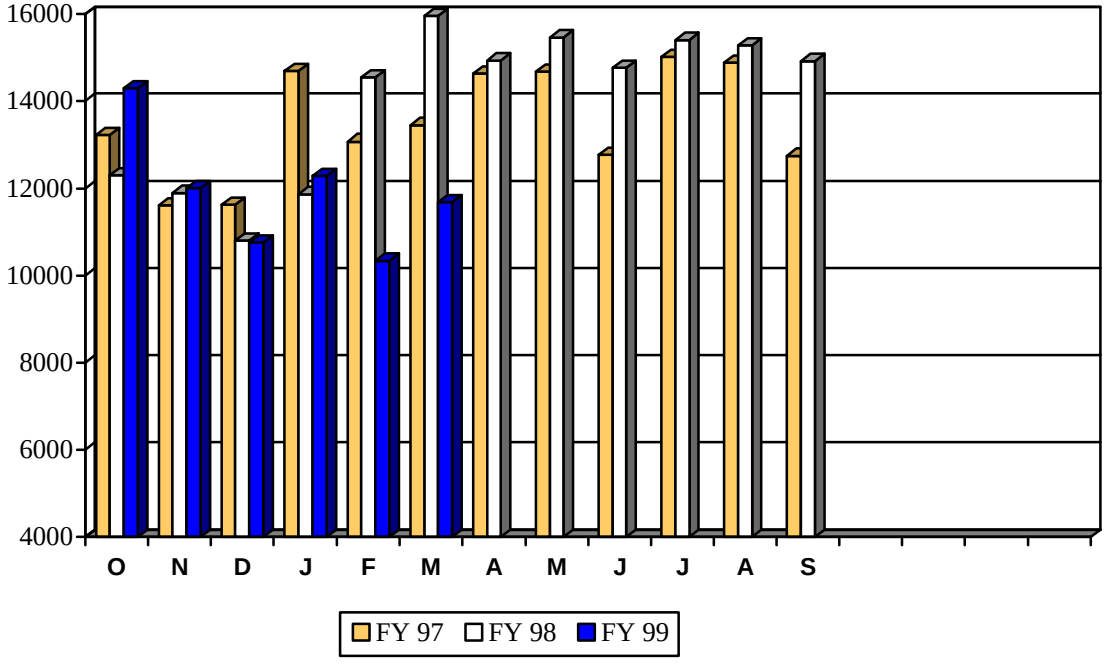
Customer Profile Based on Order Cost

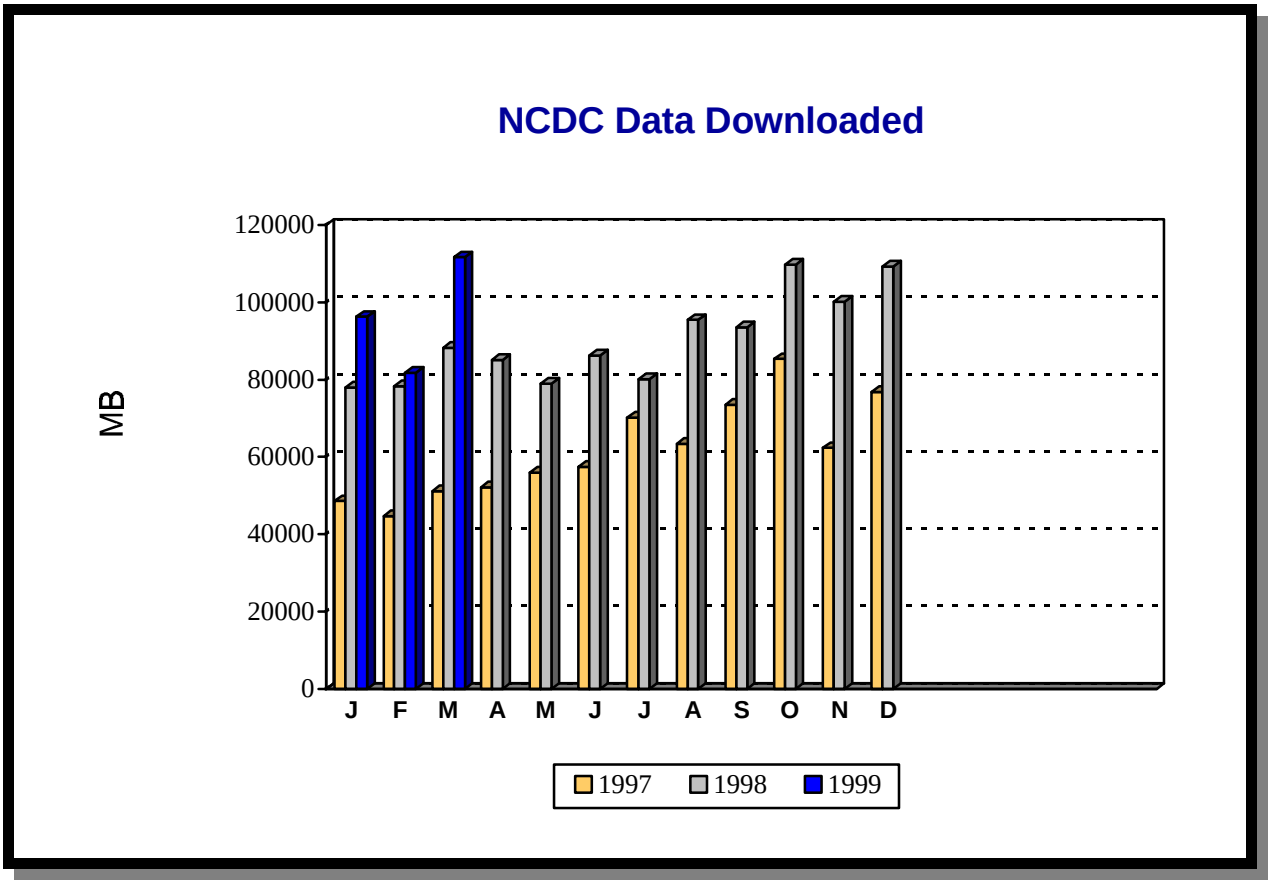


NCDC On-Line Users



NCDC Off-Line Customer Contacts




NCDC Data Downloaded
MB
120000
100000
80000
60000
40000
20000
0
J F M A M J J A S O N D
1997 1998 1999